GEOG 470 ENERGY ENVIRONMENT & SOCIETY

Instructor: Michael S. McGlade, Ph.D.

Office: HSS 211 Office Phone: 838-8381

Office Hrs: Monday 12-3, Wednesday 12-2 e-mail: mcgladm@wou.edu

Classroom: HSS 235 Class meets: T 5:15-9:05

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Description**: This course will examine fundamentals of energy studies, the historical linkages between energy conversions and societal development, the modern energy system, fossil fuel combustion and climate change, emerging solar-based energy systems, other alternative energy sources, and energy and public policy at various scales.

**Assigned Readings**:

-Vaclav Smil (2006). Energy: a Beginner’s Guide. One World, Oxford. (First Edition). Note that later printings are suitable for this course, but the page numbers listed in the reading questions apply to the first printing.

-Online readings are posted on next page. Some others may be posted from time to time. There will also be required in class video viewings TBA.

**Requirements:** Graded activities for the class include weekly quizzes, a final exam, a worksheet, and a final written project/presentation. Worksheets may be assigned at instructor's discretion. No make up quizzes will be given, though the lowest score will be dropped. Therefore, please do not miss a quiz at your discretion, and then later have unforeseen circumstances prevent you from taking another one. Quizzes will be over all the previous weeks' readings, and will be open note unless otherwise noted.

**Project**: A person energy assessment will be done by each student. The first part, an electricity worksheet, will be assigned week 2. Later, an energy assessment consisting of diet, transportation, and other activities will be combined with your electricity worksheet to form the basis for your final project. Students will present projects in class on June 2, 5-7 minutes each.

Approximate weighting of requirements: quizzes 40%, final exam 25%, final project 25%, discussion/participation 10%. The grading scale:

A 90-100

B 80-90

C 70-80

D 60-70

F <60

Any student needing an accommodation for any type of disability should talk me during office hours or e-mail me the first week of the course and should contact the Office of Disability Services (838-8250v/tty).

Regarding e-mail: I will check my e-mail daily for messages, except sometimes not on Saturdays.

**TENTATIVE COURSE OUTLINE\***

|  |  |  |
| --- | --- | --- |
|  | Topic(s) | Assigned Reading |
| March 31 | introductory concepts |  |
| April 7 | intro conceptselectricity worksheet assignedquiz | Smil chapter 1 (reading/study questions posted at [www.wou.edu/~mcgladm](http://www.wou.edu/~mcgladm))Also:<http://ngm.nationalgeographic.com/2009/03/energy-conservation/miller-text.html> |
| April 14 | energy in the biosphere, | Smil chapter 2 (reading/study questions posted at www.wou.edu/~mcgladm) |
| April 21 | original solar-powered societies  | Smil chapter 3 (reading/study questions posted at www.wou.edu/~mcgladm) |
| April 28 | burning buried sunshine: fossil fuel manmodern society & energy, **electricity wksht. due**  | Smil chapter 4, Can Coal Ever be Clean?<http://ngm.nationalgeographic.com/2014/04/coal/nijhuis-text>(reading/study questions posted at www.wou.edu/~mcgladm) |
| May 5 | the carbon cycle and climate change in today’s biosphere | Smil chapter 5 (reading/study questions posted at www.wou.edu/~mcgladm)National Academy of Science, The Royal Society Climate Change: Evidence and Choices (PDF Booklet).HERE IS YOUR UPDATED ASSIGNMENT FOR THE NATIONAL ACADEMY OF SCIENCE pdf: Each student is asked to present briefly (no more than 5 minutes) the findings of two of the 20+ main points. Here are the specifics:Beth: #1-2Jon: #3-4Soren: #5-6Courtney: #7-8Vanessa: #9-10Matt: #11-12Conner: #13-14Robert: #15-16Ashley: #17-18 |
| May 12 | case for a modern solar-based society; what about nuclear? | -Grand Solar Plan, Scientific American-Smil Chapter 6 -2 Billion Cars, Questions in a sub folder of GEOG 470 at [www.wou.edu/~mcgladm](http://www.wou.edu/~mcgladm) (please note that the Friedman reading was originally this week but I have placed it into next weeks’ materials.) |
| May 19 | alternative energy systems | Friedman Ch 11 The Stone Age Didn’t End… Questions for both readings in a sub folder of GEOG 470 at [www.wou.edu/~mcgladm](http://www.wou.edu/~mcgladm) Make sure you read the Grand Solar Plan from last week! |
| May 26 | -alternative energy systems-political economy of energy transitions | Naomi Klein, This Changes Everything (2014). See PDF in class folder. Reading questions are titled Klein Reading Questions in that same folder.  |
| Week of June 2 | ~~-personal energy assessment due in class~~-getting there-in-class presentations | for closed note quiz:1. solar energy intro notes
2. passive solar house PDF

both of above readings in “for quiz June …” subfolder of “some required material” folder1. basics of May 23 Oregonian article “Jordan Cove LNG Terminal (what is proposed, arguments for and against): <http://www.oregonlive.com/business/index.ssf/2014/05/jordan_cove_lng_terminal_in_co.html>
 |
| **Tuesday June 9th** | **Final Exam 5:15 p.m.** | Comprehensive written exam |

**\***reading list and all other details are subject to changes. This syllabus is a rough guide to the readings and other activities. We will be viewing a number of online documentaries in the class.